



ABSTRACT

Concrete pavement of highways and streets is designed with preset strength safety level determined depending on the volumes of truck traffic. The choice of this level is based on the analysis of test results of thousands precast and prestressed structural members.

Strength safety of pavement is equivalent to safety of design flexural strength of concrete estimated as a part of modulus of rupture. Thickness design of pavement with the preset strength safety level allows more complete utilization of flexural strength of concrete than that provided by the current design practice. If thickness of pavement is controlled by results of fatigue analysis, it means reduction of thickness of pavement by 8-10% as compared with that provided by the thickness design of these pavements according to Portland Cement Association Engineering Bulletin EB109P.

It can be applied to any other methods of thickness design of concrete pavement as well as for PCA method.